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7.     (Amended) The method of claim 1, wherein the image areas to be encoded are segmented into multiple halftone groups based on gray level values in the images to be encoded, and the segmented image areas are encoded with respective corresponding sets of two-dimensional, coded halftone patterns.

8.     (Amended) A system for generating a payment indicium, comprising an encoder configured to:

generate a corroborative digital token from payment information; and

modulate a base image with a graphical encoding of the corroborative digital token to produce a payment indicium by

dividing the base image into multiple image areas,

segmenting image areas to be encoded into multiple groups based on pixel

values in the image areas to be encoded, and

encoding the segmented image areas with sets of two-dimensional code

patterns to graphically encode the corroborative digital token in the

payment indicium, wherein each set of code patterns encodes a

respective corresponding group of image areas.

10.     (Amended) A method of generating a payment indicium with a printer of a particular type, comprising:

identifying the type of the printer;

selecting a printing resolution based on the identified type of the printer; and

printing a payment indicium containing embedded payment information on a printing surface with the printer set to the selected printing resolution.

Please cancel claim 11 without prejudice.

12.     (Amended) The method of claim 10, wherein the selected printing resolution is 100 dots per inch, or greater if the identified printer type is an ink-jet printer.

13.     (Amended) The method of claim 10, wherein the selected printing resolution is 125 dots per inch, or greater if the identified printer type is a laser printer.

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Please cancel claim 14 without prejudice.

15.    (Amended) A method of generating a payment indicium, comprising:

encoding payment information into a corroborative digital token with at least one encoding level that varies depending on a payment value specified in the payment information; and

rendering a payment indicium containing the encoded payment information.

19.    (Amended) The method of claim 16, wherein an encoding robustness level parameter varies with payment value.

21.    (New) The system of claim 8, wherein image areas to be encoded are segmented into multiple halftone groups based on gray level values in the images to be encoded, and the segmented image areas are encoded with respective corresponding sets of two-dimensional, coded halftone patterns.

22.    (New) The method of claim 10, further comprising:

generating a corroborative digital token from payment information;

dividing a base image into multiple image areas;

segmenting image areas to be encoded into multiple groups based on pixel values in the image areas to be encoded; and

encoding the segmented image areas with sets of two-dimensional code patterns to graphically encode the corroborative digital token in the payment indicium, wherein each set of code patterns encodes a respective corresponding group of image areas.

23.    (New) The method of claim 22, wherein image areas to be encoded are segmented into multiple halftone groups based on gray level values in the images to be encoded, and the segmented image areas are encoded with respective corresponding sets of two-dimensional, coded halftone patterns.

24.    (New) The method of claim 15, further comprising:

dividing a base image into multiple image areas;

segmenting image areas to be encoded into multiple groups based on pixel values in the image areas to be encoded; and

encoding the segmented image areas with sets of two-dimensional code patterns to graphically encode the corroborative digital token in the payment indicium, wherein each set of code patterns encodes a respective corresponding group of image areas.

25.   (New) The method of claim 24, wherein image areas to be encoded are segmented into multiple halftone groups based on gray level values in the images to be encoded, and the segmented image areas are encoded with respective corresponding sets of two-dimensional, coded halftone patterns.

## COMMENTS

### I.      Status of claims

Claims 1-20 were pending.

Claims 11 and 14 have been canceled without prejudice.

### II.     Claim rejections under 35 U.S.C. § 112, second paragraph

The Examiner has rejected claims 10, 11, and 14 under 35 U.S.C. § 112, second paragraph, as being indefinite.  As mentioned above, claims 11 and 14 have been canceled without prejudice.

With respect to claim 10, the Examiner has indicated that (emphasis added):

> As for claims 10 and 11 are directed to non-limiting language
> in the inventive steps.  Neither of the claims states what the
> upper, lower, or any type of limitation on the resolution to be
> chosen for prevention of the indicia to be copied by a
> reproduction system.

As stated by the Board:

> In rejecting a claim under the second paragraph of 35 U.S.C.
> 112, it is incumbent on the examiner to establish that one of

> ordinary skill in the pertinent art, when reading the claims in
> light of the supporting specification, would not have been able
> to ascertain with a reasonable degree of precision and
> particularity the particular area set out and circumscribed by the
> claims.[1]

The Examiner merely asserts that the claims must recite "upper, lower, or any type of limitation on the resolution to be chosen" to avoid being indefinite. The Examiner, however, fails to state why one of ordinary skill in the art, when reading claim 10 in light of the specification, would not have been able to ascertain with a reasonable degree of precision and particularity the particular area set out and circumscribed by the claim. For this reason, the Examiner has failed to establish a *prima facie* case of indefiniteness.

In any event, claim 10 is not indefinite. The general rule is that if the claims read in light of the specification, reasonably apprise one of ordinary skill in the art of the use and scope of the invention, the claims are definite and satisfy the § 112, second paragraph, requirement of particularly pointing out and distinctly claiming the subject matter which applicants regard as their invention.

Claim 10 now recites the step of "selecting a printing resolution based on the identified type of the printer." When reading this claim language in light of the supporting specification, one of ordinary skill in the art would have been able to ascertain the scope of the claim with a reasonable degree of precision and particularity. For this additional reason, The Examiner's rejection of claim 10 under 35 U.S.C. § 112, second paragraph, should be withdrawn.

It is noted that applicants are entitled to claims as broad as the prior art and the application disclosure will allow. The breadth of the claims should not be equated with indefiniteness. If the scope of the claims is clear, the claims comply with § 112, second paragraph. In addition, the absence in a claim of a specific feature that is recited in the specification does not make that claim indefinite.

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1 *Ex parte* Wu, 10 USPQ 2d 2031, 2033 (B.P.A.I. 1989) (emphasis added) (citing *In re* Moore, 439 F.2d 1232, 169 USPQ 236 (C.C.P.A. 1971)

III.    Claim rejections under 35 U.S.C. § 102 (e)

The Examiner has rejected claims 1, 8, 9, and 15 under 35 U.S.C. § 102(e) over Cordery (U.S. 6,175,827).

A.    Claims 1 and 8

Each of claims 1 and 8 requires that a base image be modulated with a graphical encoding of the corroborative digital token to produce a payment indicium. The Examiner has asserted that Cordery discloses "modulating a base image with a graphical encoding of the corroborative digital token to produce a payment indicium."

Contrary to the Examiner's assertion, however, Cordery's approach does not modulate a base image. Instead, a digital token is encoded in two-dimensional bar codes that do not correspond to modulated base images. The bar codes of FIGS. 2, 3, and 4 appear to correspond to 2-D Data Matrix codes in which data is encoded as black and white dot patterns within a square region circumscribed by a pair of adjacent sides printed as solid bars and a second pair of adjacent sides printed as a series of equally spaced square dots. The bar code of FIG. 5 appears to be a PDF417 bar code in which information is encoded in a stacked arrangement of bars and spaces.

For at least this reason, the Examiner's rejection of claims 1 and 8 under 35 U.S.C. § 102(e) over Cordery should be withdrawn.

It is noted that Curry (U.S. 5,706,099) discloses a method of generating serpentine halftone images in which information is encoded by modulating a halftone image with halftone cells that are rotated to encode information. The tone of each halftone cell is controlled by selectively varying the thickness of a pair of arcs in each halftone cell (see col. 3, lines 58-67). Curry, however, does not teach or suggest the base image modulation steps now recited in claims 1 and 8.

B.    Claim 9

Independent claim 9 requires the step of extracting a digital token from a payment indicium based on a comparison of the payment indicium and a base image. The Examiner

has asserted that Cordery discloses the step of "extracting a digital token from a payment indicium based upon a comparison of the payment indicium and a base image."

Contrary to the Examiner's assertion, however, Cordery does not extract a digital token from a payment indicium based on a comparison of the payment indicium and a base image. As explained above in connection with claims 1 and 8, Cordery's system encodes a digital token in two-dimensional bar codes that do not correspond to modulated base images. With respect to the 2-D Data Matrix codes of FIGS. 2, 3, and 4, the digital token is extracted simply by analyzing black and white dot patterns in the central square regions of the codes; no comparison of a 2-D Data Matrix code with a base image is used for data extraction. Similarly, a digital token is extracted from the PDF417 bar code of FIG. 5 by analyzing the stacked arrangement of bars and spaces; no comparison of the PDF417 with a base image is used for data extraction.

For at least this reason, the Examiner's rejection of claim 9 under 35 U.S.C. § 102(e) over Cordery should be withdrawn.

## C.    Claim 15

Claim 15 as amended now requires the step of "encoding payment information into a corroborative digital token with at least one encoding level that varies depending on a payment value specified in the payment information." The Examiner has asserted that:

> Cordery clearly discloses that,
>
> one or more encoding parameters vary with payment value, an
> encoding security level parameter varies with payment value,
> an encoding robustness parameter varies with payment value,
> an error correction code redundancy parameter varies with
> payment value.

The Examiner, however, has failed to specifically point to any disclosure in Cordery in which a digital token encoding level varies with payment value, as now recited in claim 15. Indeed, Cordery does not teach suggest anything about varying a digital token encoding level depending on a payment value specified in the payment information. Regarding the error correction level used in his system, Cordery teaches that (col. 17, lines18-22):

> The level of error correction can be different for different parts
> of the document. A simple error-detection code can be used for

> some lines; some selected critical lines may, at the signer's
> discretion, employ a code that allows reconstruction of the
> selected lines...

That is, Cordery teaches that the error correction level can be different for *different parts of the document*, but this teaching would not suggest to one of ordinary skill in the art at the time of the invention to encode payment information into a corroborative digital token with at least one encoding level that varies depending on a *payment value* specified in the payment information, as now required by claim 15.

For at least these reasons, the Examiner's rejection of independent claim 15 under 35 U.S.C. § 102(e) over Cordery should be withdrawn.

## IV.    Claim rejections under 35 U.S.C. § 103(a)

### A.    Claims 5, 7, and 10-14

The Examiner has rejected claims 5, 7, and 10-14 under 35 U.S.C. § 103(a) over Cordery in view of Curry (U.S. 5,706,099).

#### 1.    Claims 5 and 7

Claims 5 and 7 incorporate the features of independent claim 1 and, therefore, these claims are patentable for at least the same reasons explained above.

#### 2.    Claims 10-14

##### a.    Independent claim 10

With respect to independent claim 10, the Examiner has indicated that (emphasis added):

> ... What Cordery is not explicit is a printing characteristic that
> degrades with photographic reproductions such that the
> embedded payment information is extractable from an original
> rendering of the payment indicium but is un-extractable from a

> photographic reproduction of an original rendering of the
> payment indicium. <u>However, Curry clearly teaches that using
> different resolution printing does affect that quality and clarity
> of the reproduced copy of the halftone image.</u> ...

Contrary to the Examiner's assertion, however, Curry does not teach anything about *printing resolution*. At col. 4, lines 57-61, Curry refers to *halftone cell resolution*, not printing resolution. In any event, Cordery and Curry, taken alone or in any permissible combination, fail to teach or suggest a method of generating a payment indicium with a printer that includes the steps of identifying the type of printer and selecting a printing resolution based on the identified type of the printer, as now recited in claim 10. For at least this reason, the Examiner's rejection of independent claim 10 now should be withdrawn.

The Examiner also has indicated that:

> Additionally, it is well known in the art that the higher the
> density of the original halftone image the harder it would be to
> reproduce the image with the watermark intact. As well as
> copying a halftone image does depend on the original
> resolution of the image being copied as it is clear as technology
> changes the copying system have been improved to replicate a
> higher degree of resolution. Therefore, it would have been
> obvious to one having ordinary skill in the art at the time the
> current invention was made to use a higher density resolution
> image for printing the indicia on the mailing piece for better
> security as for prevention of copy reproduction.

The Examiner is reminded that:

> The examiner should be aware that "deeming" does not
> discharge him from the burden of providing the requisite
> factual basis and establishing the requisite motivation to
> support a conclusion of obviousness.

<u>Ex parte Stern</u>, 13 USPQ2d 1379 (BPAI 1989). The Examiner's reasoning constitutes imprecise conjecture. The Examiner has failed to provide the requisite factual basis and failed to establish the requisite motivation to support his deemed conclusion that the features recited in claim 10 would have been obvious to one of ordinary skill in the art at the time of the invention. The Examiner is requested to cite art in support of his assertions. Alternatively, if the Examiner is aware of facts within his personal knowledge that provide the requisite factual basis and establishes the requisite motivation to support his deemed conclusion that the features recited in claim 10 would have been obvious, the Examiner is

requested to provide an affidavit in accordance with 37 CFR § 1.104(d)(2).  Otherwise, the

Examiner's rejection of claim 10 should be withdrawn.


b.      Dependent claims 11-14


Claims 11 and 14 have been canceled without prejudice.

Claims 12 and 13 incorporate the features of independent claim 10 and, therefore,

these claims are patentable for at least the same reasons explained above.


B.      Claims 16-20


The Examiner has rejected claims 16-20 under 35 U.S.C. § 103(a) over Cordery in

view of Klemba (U.S. 5,710,814).

Claims 16-20 incorporate the features of independent claim 15 and, therefore, these

claims are patentable for at least the same reasons explained above.  In particular, the

Examiner has asserted that:

> Cordery clearly discloses that,
>
> one or more encoding parameters vary with payment value, an
> encoding security level parameters varies with payment value,
> an error correction code redundancy parameter varies with
> payment value. ...

Cordery, however, does not teach suggest anything about varying an encoding level

depending on a payment value specified in the payment information, as explained above in

connection with claim 15.

The Examiner also has indicated that:

> What Cordery is not clear on is an encoding private key bit
> length parameter varies with payment value.  It is clear that as
> the count and amount of the register change the token is
> changing as well that is a basis of creation of none-similar
> tokens in the postage meter system.  However, the use of
> variable length encryption is an obvious design choice, it is
> clear that higher security levels require higher value assets.
> This is truer for monetary asset indicators.  It is clear that the
> higher the value of the asset particularly monetary assets the
> higher the bit length of the encryption.  As it is clear by Klemba
> (see Klemba column 7, lines 63-68 and column 8, lines 1-15).

> In addition it is clear that using the higher bit length requires a
> higher resource to encrypt and decrypt an asset. Therefore, it
> would have been obvious to one having ordinary skill in the art
> at the time the current invention was made to use the variable
> bit length encryption based on the value of the asset that is
> being encrypted and save on usage of resources.

The Examiner has cited Klemba for the proposition that "the higher the value of the asset particularly monetary assets the higher the bit length of the encryption." Klemba, however, does not teach or suggest such a proposition. Klemba describes a scheme that allows a user to easily reconfigure a cryptographic unit to comply with the different cryptographic policies of different national governments. The section of Klemba cited by the Examiner merely teaches that his cryptographic scheme is flexible enough to handle a governmental policy that requires performing multiple types of cryptography at the same time. In this section, Klemba provides an example in which a particular one of multiple different types of cryptography is selected for an application depending on whether or not the application has a *Key Escrow requirement*; contrary to the Examiner's implication, the selected type of cryptography does not depend on *asset value*.

With this rejection, the Examiner has failed to provide the requisite factual basis and failed to establish the requisite motivation to support his deemed conclusion that the features recited in claims 16-20 would have been obvious to one of ordinary skill in the art at the time of the invention. The Examiner merely asserts without any basis that the features recited in claims 16-20 are an obvious matter of design choice. The Examiner is requested to cite art in support of his assertions. Alternatively, if the Examiner is aware of facts within his personal knowledge that provide the requisite factual basis and establishes the requisite motivation to support his deemed conclusion that the features recited in claim 10 would have been obvious, the Examiner is requested to provide an affidavit in accordance with 37 CFR § 1.104(d)(2). Otherwise, the Examiner's rejection of claim 10 should be withdrawn.

## IV.     Conclusion

For the reasons explained above, all of the pending claims are now in condition for allowance and should be allowed.

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Respectfully submitted,

Date: May 5, 2003

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